

Notice of Allowability

Application No.

09/880,888

Applicant(s)

KASHAI ET AL.

Examiner

Art Unit

Ted T. Vo

2122

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 12/13/04.
2. ☒ The allowed claim(s) is/are 1-22.
3. ☐ The drawings filed on _____ are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date 2/04/05.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

Ted T. Vo
TED T. VO
Primary Examiner

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

2. Authorization for this examiner's amendment was given in a telephone interview with Applicants representative, D'vorah Graeser, Reg. No. 40,000, on 02/04/05.

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3. The application has been amended as follows to place the application in the condition for allowance:

In the amended specification filed on 04/23/2004:

in page 3, at line 20, after "FIG. 8", delete: "shows"

in page 3, at line 20, after "FIG. 8", insert: -- , FIG. 8A, and FIG. 8B show --

----- End -----

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4. This communication is in response to the amendment in the Request for Continuation Examiner filed on 12/13/04. For further search and consideration to the amended limitations of Independent Claim 1, the amendment and the arguments are persuasive and overcome the prior final action, mailed date: 7/14/04.

Prior art of record, Edwards et al., (US No. 6,625,797 B1) remains the closest art of record.

Reasons for Allowance

5. Claims 1-22 are allowed.

Prior art of record, Edwards, discloses a method for translating a high-level source specification (such as a compiled version of a source code) into hardware representation. The method includes generating a control and data flow graph of nodes by analyzing the source specification (column 5, lines 55-61). Bytecode, functions, annotations, and relations etc., from the source specification are implemented into flowgraphs, nodes, control paths, data paths, and clocks. In the compilation and translation, a user can insert the user preferences and constrains. Specific functions in each hardware circuit are specified by the semantic of bytecode coupled with flow graph annotation derived from user supplied constraints and preferences. The result graph is translated into hardware representation. In the process of translation, the user preferences and Constraints are supplied by user (Figure 1).

As pointed out by Applicants,

"The method of Edwards is specifically taught as being useful for such programming language as C and C++, which are high level software imperative programming languages but crucially do not include structural constraints. On the contrary, it makes no sense for a general purpose imperative programming language to include structural constraints because a general purpose programming language lacks any mechanism for dealing with or resolving such constraints. It is only when it comes to design verification (or some other highly specialized areas) that it makes sense to include structural constraints, as a modeling aid that is not reliant on imperative programming" (Remarks: page 8, lines 7-15);

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where Applicants point out the amended Claim 1 defines the first language as one having structural constraints, dynamic behavior, and object hierarchy and relationship between objects defined within the object hierarchy (Remarks: page 8, lines 15-20). Also, in regard to the recitation "a static framework of resource", Applicants point out that Edward teaches hardware hardware-implementation independent flowgraph and the use of the flowgraph in assigning hardware resources which are in contrast to the claim that defines a creation of static framework of the resources in the first language and the use of that framework in the mapping the dynamic behavior onto the second language (Remarks: page 11, lines 13-16).

Therefore, the following is an examiner's statement of reasons for allowance:

The cited prior arts taken alone or in combination fail to teach claimed invention to a method for at least semi-automatically translating code writing in a first language to a second language comprising at least features,

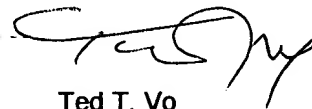
"detecting an underlying control structure for the code in the first language, wherein the first language features structural constraints, dynamic behavior, and at least one hierarchy of objects, respective ones of said objects in said hierarchy having relationships, said relationships between the objects being determined for said code by said structural constraints, and said language imparting said dynamic behavior to said code, said underlying control structure incorporating said relationships and said dynamic behavior; creating a static framework of resources for supporting the dynamic behavior imparted to said code written in the first language", as recited in independent Claim 1.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ted T. Vo whose telephone number is (571) 272-3706. The examiner can normally be reached on 8:00AM to 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam can be reached on (571) 272-3694. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Ted T. Vo
Primary Examiner
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February 04, 2005